

## CALL FOR PAPERS

### Journal of Communications Special Issue on Cloud and Big Data

In the current digital age, data is generated in many forms, from web logs to social data, from sensor networks to scientific research. The value of this data has proven valuable for many purposes and has led us into the Big Data era. Due to the large volume of data, Big Data requires significant storage, processing, and bandwidth resources. To date, the Cloud provides the largest collection of disk storage, CPU power, and network bandwidth, which makes it a natural choice for housing the Big Data.

However, the Cloud is more than just storage and computing facilities. It provides services in many forms: Infrastructure as a service (IaaS), Platform as a service (PaaS), Storage as a service (SaaS), Data as a service (DaaS), etc. The power of the Cloud has been demonstrated by the fast emergence of cloud services, such as iCloud and Google Drive. The Cloud provides great flexibility in storage, data processing, data management, new service provisioning, and more. In addition, the Cloud makes the data accessible anywhere at any time, which can further facilitate data generation, making Big Data even bigger.

When moving Big Data into the Cloud, it is important to note that the large storage, processing, and bandwidth requirements offer three basic technical challenges. First, we need efficient and scalable storage solutions to store the data. The storage system should not only house the data, but also provide efficient access to the data. Second, we need efficient data processing solutions of heterogeneous structures. Third, we need efficient and scalable network solutions to move the data, particularly as data backup and data migration can be costly due to the high demand for network bandwidth. However, these are not the only challenges. The rapid growth of Big Data may offer many other challenges, including challenges related to data mining, programming models, security, and many more.

In this special issue, we invite researchers to share their insights and advancements in Cloud for Big Data. The goal is to initiate new developments in the Cloud and Big Data. Topics of interest include, but are not limited to:

- Cloud storage for Big Data
- Cloud computing for Big Data
- Big Data in the Cloud, including movement, collection, processing, visualization, management, etc.
- Programming models for Big Data in the Cloud
- Cloud system architecture for Big Data
- Energy issues around Big Data in the Cloud
- Security issues around Big Data in the Cloud
- Implementation issues around Big Data in the Cloud
- Emerging cloud services for Big Data in social science, scientific research, etc
- Performance optimization related to Big Data in the Cloud
- Cloud resource utilization for housing Big Data

## **Submission**

Prospective authors are invited to submit original, high quality papers that have not appeared, nor are under considerations, in any other journals. Submissions should follow the author guidelines set out by Journal of Communications. The complete instruction for authors can be found at <http://www.academpublisher.com/jcm/forauthors.html>. Should you have further questions, please contact the corresponding guest editor (Mea Wang, [meawang@ucalgary.ca](mailto:meawang@ucalgary.ca)).

## **Important Dates**

|                       |                 |
|-----------------------|-----------------|
| Submission Deadline:  | April. 30, 2013 |
| Author Notification:  | July 31, 2013   |
| Final Manuscript Due: | August 31, 2013 |
| Publication Date:     | Q4, 2013        |

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Mukesh Singhal is a Chancellor's Professor in the Computer Science and Engineering program at the University of California, Merced. He received a PhD degree in Computer Science from the University of Maryland, College Park, in May 1986. From 1986 to 2001, he was a faculty in the department of Computer and Information Science at The Ohio State University. From 1998 to 2001, he served as the program director of the Operating Systems and Compilers program at the National Science Foundation. From 2001 to 2012, he was a Professor and Gartner Group endowed chair in Network Engineering in the Department of Computer Science at The University of Kentucky. His current research interests include distributed and cloud computing, cyber-security, and computer networks. He has published over 240 refereed articles in these areas. He is a Fellow of IEEE and he was a recipient of 2003 IEEE Technical Achievement Award. He has coauthored four books titled "Advanced Concepts in Operating Systems", McGraw-Hill, New York, 1994, "Distributed Computing Systems", Cambridge University Press 2007, "Data and Computer Communications: Networking and Internetworking", CRC Press, 2001, and "Readings in Distributed Computing Systems", IEEE Computer Society Press, 1993. He has served in the editorial board of "IEEE Trans. on Dependable and Secure Computing", "IEEE Trans. on Parallel and Distributed Systems", "IEEE Trans. on Data and Knowledge Engineering", and "IEEE Trans. on Computers".

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